

Notice of Allowability

Application No.

09/987,717

Applicant(s)

HARA ET AL.

Examiner

Shelly A Chase

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed 11-15-2001.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ The drawings filed on 15 November 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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6-28-04

DETAILED ACTION

1. Claims 1 to 16 are presented for examination. The preliminary amendment filed 12-04-2001 amended claims 14 to 16.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119, which papers have been placed of record in the file.

Allowable Subject Matter

3. Claims 1 to 16 are allowed.
4. The following is an examiner's statement of reasons for allowance: the prior art made of record teaches CRC code generation for parallel data. For instance, Kodama et al. (USP 5870413) discloses an adder [8] encoding data bits by adding the remainder data with a received parallel data of a CRC code word and Keller (USP 6701479 B2), teaches a fast cyclic redundancy check generation system wherein a CRC generating circuit employs multiple polynomial divisions (PD) in parallel and a selector selecting a variable length data from the parallel path of the (PD's). The prior art made of record teachings is non-obvious over the instant invention; because the prior art made of record fails to teach or fairly suggests or render obvious the novel element of a CRC

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encoding circuit including multiple encoding units, a selecting unit and a converting unit as recited in the claims.

Specifically, the prior art made of record, taken alone or in combination fails to teach or fairly suggests or render obvious "a CRC encoding circuit for generating a CRC code in accordance with a parallel data having a remainder portion data in a last data set of the parallel data, comprising: a converting unit for converting the remainder portion data into a serial data; and a second encoding unit for generating a third CRC code selected by the CRC code selecting unit and the serial data converted by the converting unit."

Claims 1, 5, 9 and 13:

The claims are allowed because they are patentably distinct over the prior art made of record for the specific elements claimed as stated above. Dependent claims 2 to 4, 6 to 8, 10 to 12 and 14 to 16 are also allowed over the prior art made of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Fahmi et al. (USP 6128766), discloses a high speed CRC algorithm wherein a CRC circuit includes an input data CRC calculator [3] and an input data and reserved field CRC calculator [5] processing input data in parallel and a multiplexor [7] selecting data outputted from the CRC calculators [3 & 5],

Freeman et al. (USP 3678469), discloses a universal cyclic division circuit employing a old CRC register and a new CRC register for the generation of CRC codes.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelly A Chase whose telephone number is 703-308-7246. The examiner can normally be reached on Mon-Thur from 8:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shelly A Chase

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